

Re: Algorithmic complexity of a graph

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felixg@techunix.technion.ac.il (Felix Goldberg) wrote in message news:<49fff586.0410080509.41e8e8d5@posting.google.com>...
> *caterina* <caterina.mora@uibk.ac.at> wrote in message news:<rwff2c1dqg8q@legacy.com>...
> > *Hi!*
> >
> > *I don't know if this is the right place to ask this question, but I*
> > *have no other ideas...*
> >
> > *Does by chance anyone know of a definition of the ALGORITHMIC (or*
> > *Kolmogorov) complexity of a graph? And, in case, could you suggest*
> > *where I could look for it?*
> >
> > *I have only found definitions of computational complexity...*
> >
> > *Thanks a lot!!!*
> >
> > *cat*
> >
> >
> > *Well, I reckon you could fix some system of notation and count the*
> > *bits necessary to describe a graph in such a system – for instance you*
> > *could count the 1's in the adjacency matrix.*
> >
> > *Apropos, the number of spanning trees is often called the "complexity"*
> > *of a graph. Depending on your needs, you might find this a useful*
> > *measure too.*

Obviously it's the Kolmogorov complexity of the adjacency matrix, which can be easily encoded as a bitstring. (Any bitstring representation should do) Have a look at the lecture notes of Alexander Shen on the web. (section 'incompressible graphs' IIRC)

<http://user.it.uu.se/~vorobyov/Courses/KC/2000/>

Regards,

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Eray